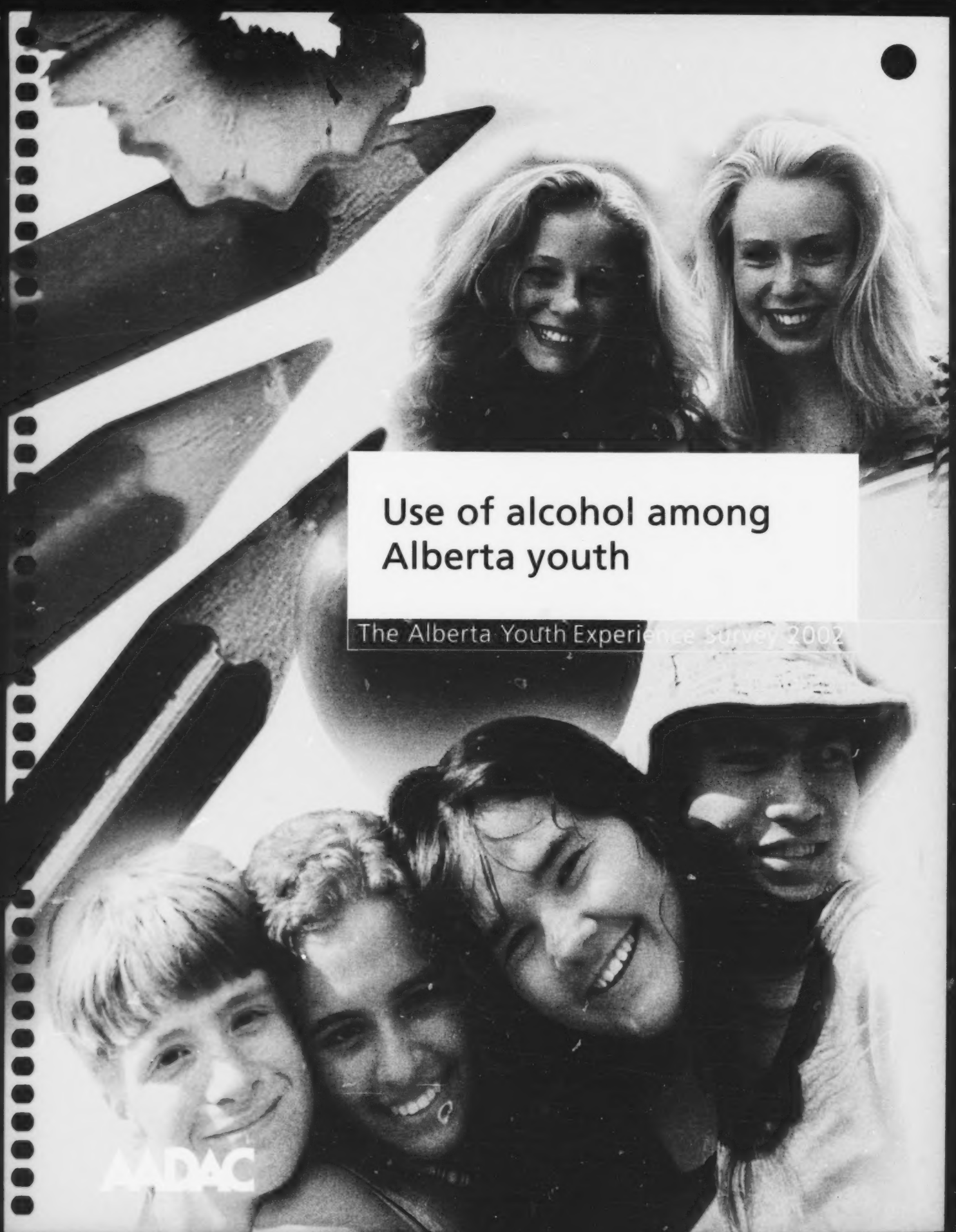

Use of alcohol among Alberta youth

The Alberta Youth Experience Survey 2002

AADAC

106-07410/

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EXECUTIVE SUMMARY

This report is one of a series of topical reports developed from *The Alberta Youth Experience Survey 2002 (TAYES)* (AADAC, 2003a; AADAC 2003b). This report focuses on Alberta adolescents in grades 7 to 12, examining prevalence and patterns of alcohol use and abuse in relation to demographic and regional influences.

TAYES Findings

- The majority of youth in Alberta (56.3%) report having used alcohol in the 12 months before the 2002 survey.
- Grade, region, the youth's living arrangement, and weekly spending money are all significantly related to alcohol use among Alberta youth. Young people are more likely to have used alcohol if they
  - are in grades 10 to 12
  - live in the Central region of Alberta
  - do not live with both natural parents and do not live with their natural mother only
  - have weekly spending money of more than $10.00
- More than half of the Alberta youth who drank in the previous 12 months (53.9%) report drinking only at special events or up to once a month.
- Gender and grade are significantly related to the quantity or number of drinks consumed per occasion. Alberta youth are likely to drink more if they are
  - male
  - in grades 11 or 12
- Of those youth who drink, 60% report they first drank alcohol in junior high.
- The most common methods of obtaining alcohol for Alberta youth is having friends buy it on their behalf (38.6%) and accepting alcohol from friends who offer it to them (22.8%).
- Over one-third of Alberta youth have attended an outdoor party (i.e., bush party or beach party) where alcohol or drugs are consumed.
- Of those youth who consumed alcohol in the 12 months prior to the survey, the majority (76.2%) did not report signs of hazardous or harmful alcohol use.
- A small proportion of Alberta youth (1.1%) indicated they had attended a treatment program for their alcohol use.

Of six factors examined (gender, grade, region, ethnicity, living arrangement and weekly spending money), grade was the factor with the strongest relationship by far to alcohol use by youth. Alcohol use increased with grade and patterns of use changed with grade, reinforcing the need for a continuum of prevention efforts. Like the results of other studies (Hawkins et al., 1992), TAYES results suggest that programs to prevent alcohol use or delay the onset of use must begin before junior high school and continue through the high school years. TAYES results are also consistent with those of other studies (AADAC, 2003a) in supporting the need for such prevention programs to be designed to fit with the changes that adolescents undergo throughout the junior high and high school years. This requires that programs be age-appropriate and culturally sensitive to their target group (Levin & George, 2003).

Youth in high school years were more likely to report impaired driving and hazardous or harmful drinking. A targeted approach that includes strategies to reduce harm when alcohol use is likely to continue may be beneficial.

INTRODUCTION

The Alberta Youth Experience Survey (TAYES) 2002 sought to answer questions about the proportion of Alberta youth who gambled or used alcohol, tobacco or other drugs and what levels of harm, if any, they experienced as a result of that substance use or gambling. The survey also sought to investigate the factors that increased adolescents' protection from harmful substances, or increased their risk of substance use or abuse or gambling.

Three general reports have been published based on TAYES: the *Summary Report*, the *Technical Report* and the *Overview of Risk and Protective Factors*. This report is one of a series of special topical reports that are intended to provide greater detail on TAYES results and relevant literature than is contained in the Summary Report (Alberta Alcohol and Drug Abuse Commission [AADAC], 2003a). Topical reports are intended for use by professional educators and addictions workers.

One purpose of TAYES was to determine the current extent of use of alcohol, tobacco, and other drugs, and of gambling behaviour among young Albertans. A critical second purpose of the survey was to focus attention on what, if anything, could be done to prevent certain problems or trends from developing or means of intervening when they appeared.

The purpose of this report is to summarize the TAYES results related to alcohol use. More specifically, this report addresses questions on prevalence and patterns of alcohol use as well as the harms associated with alcohol use in relation to demographic and regional influences. The following questions are addressed.

Alcohol use

1 What proportion of youth drinks alcohol?

2 How often do youth drink?

3 How much do youth drink?

4 In which school year (grade) do youth first drink alcohol?

5 How do youth usually get alcohol?

6 What proportion of youth attends outdoor parties where alcohol or other drugs are present?

Harm associated with alcohol use

1 How often do youth miss commitments because of drinking alcohol?

2 How often do youth drive while impaired by alcohol?

3 How many youth report signs of hazardous or harmful drinking?

4 How many youth have sought treatment for their alcohol use/abuse?

Alcohol use was defined in the TAYES survey as any use within the 12 months preceding the administration of the questionnaire. Harm associated with alcohol use was measured by the Alcohol Use Disorders Identification Test (AUDIT), where a score of 11 or more indicated an individual had been at risk of hazardous or harmful alcohol use in the previous 12 months (AADAC, 2003b).

A picture of alcohol use provides important information about the size of the adolescent alcohol-using population, patterns of alcohol use and harmful use, and risk factors related to alcohol use and harmful use. Adolescents are at an important developmental stage in which negative consequences related to alcohol use can develop into negative life situations in later adolescence and adulthood (Adlaf & Paglia, 2003). This information contributes to an understanding of the current situation, which serves as a basis for designing prevention and intervention efforts and informing policy.

BACKGROUND

Youth Trends

The most common substances adolescents use today are alcohol, tobacco and cannabis (George, Munro & Huebert, 2002; Research Triangle Institute, 2000; Substance Abuse and Mental Health Services Administration, 2002; Adlaf & Paglia, 2003). Several student surveys indicate that, after an increase in the early 1990s, youth substance use is now stabilized and overall substance use is lower than it was in the late 1970s and early 1980s (Centre for Addiction and Mental Health, 2000).

By far the most commonly used substance is alcohol (Adlaf & Paglia, 2003). Recent Canadian surveys of junior high and high school students show about one-half to two-thirds of students had consumed alcohol at least once in the previous 12 months (Adlaf & Paglia, 2003; Poulin & Wilbur, 2002). Among high school students, 69% to 80% had consumed alcohol in the 12 months preceding administration of the survey (Perron & Loiselle, 2003; Patton, Brown, Broszeit & Dhaliwal, 2001). Past-year alcohol consumption increases by grade, with students in higher grades more likely to have consumed alcohol in the past year than lower grade students (Adlaf & Paglia, 2003; Patton et al., 2001).

According to the Ontario survey on drug use among students, over the past two decades the average age of first alcohol use has been about age 13 (Adlaf & Paglia, 2003). In terms of alcohol problems, 19% of all students surveyed reported drinking at hazardous levels, with males and students in higher grades being more likely to report hazardous drinking (Adlaf & Paglia, 2003). For a discussion of hazardous drinking, please refer to the Appendix.

Risk Factors

TAYES is based on the risk and protective factors framework (Hawkins, Catalano & Miller, 1992; Newcomb & Felix-Ortiz, 1992). This framework is useful for describing the many factors that interact to influence the use and abuse of alcohol, tobacco, other drugs and gambling. The basic premise of the framework is that certain influences within life domains (individual, family, school, peer, and community) increase the risk of substance use or abuse (risk factors) and other influences mitigate or moderate the risk of substance use or abuse (protective factors) (AADAC, 2003c). Evidence suggests that effective prevention efforts give simultaneous attention to appropriate factors in the various life domains relevant to the target population (Hawkins et al., 1992).

This report focuses exclusively on risk factors related to substance use and harmful use of substances by adolescents. Other TAYES topical reports focus on results of risk and protective factors in detail (AADAC, 2003c, 2004a, 2004b, 2004c). Risk factors are defined as either life events or experiences that are statistically associated with an increase of problematic behaviours such as alcohol and other drug use, and problem gambling (Hawkins et al., 1992; Levin & George, 2003). The presence of risk factors does not cause risk behaviours (George et al., 2002). Rather the cumulative and collective influence of risk factors against a number of protective factors predict harmful substance use (Newcomb & Felix-Ortiz, 1992; AADAC, 2003c).

Research literature identifies several risk factors related to substance use and/or abuse by adolescents that are of relevance to this report. In general, the proportion of students who have used drugs such as alcohol increases with age (Research Triangle Institute, 2000; AADAC, 2003c). Students in more senior grades are more likely to have used alcohol because they are older and have been exposed to more opportunities to drink (Patton et al., 2001; Poulin & Wilbur, 2002; Adlaf & Paglia, 2003).

Gender is another significant factor. Even though the proportions of males and females using some alcohol are about equal, males are more likely to report binge drinking (consuming five or more drinks on the same drinking occasion during the four weeks prior to the survey) and drinking at hazardous levels (as defined by the Alcohol Use Disorders Identification Test [AUDIT]—see Appendix for further discussion of the AUDIT) (AADAC, 2003c; Adlaf & Paglia, 2003).

Research evidence also shows that early onset of substance use is a predictor of later problems such as abuse and dependence during adolescence and adulthood (Hawkins et al., 1992; AADAC, 2003c; Levin & George, 2003). As well, adolescents' living arrangements, whether or not an adolescent lives with both natural parents, is related to substance use (Levin & George, 2003). Nurco and Lerner (1996 as cited in AADAC, 2003c) and Harbach and Jones (1995 as cited in AADAC, 2003c) found that adolescents residing in a non-intact home (where one of the natural parents is absent) were more at risk for substance abuse than adolescents in intact homes (both natural parents live in the same household).

Ease of access to alcohol is another important factor. Availability of drugs and availability of spending money to purchase them are related to substance use among adolescents (Newcomb & Felix-Ortiz, 1992; Levin & George, 2003). Accessibility is influenced by the social context and broad social norms around acceptability of alcohol and other drug use (Newcomb & Felix-Ortiz, 1992; Levin & George, 2003). Communities and neighbourhoods that are disorganized, are in transition, or have norms favourable to substance use, present risks to adolescents (AADAC, 2003c).

Finally, there are some data showing that youth of Aboriginal ethnicity are over-represented in high-risk populations. Youth of Aboriginal ethnicity are at two to six times greater risk for every alcohol-related problem than their counterparts in the general population (Health Canada, 2001).

METHODOLOGY

This report is based on secondary analysis of data collected for TAYES 2002. Methods for the survey are reported in detail in *The Alberta Youth Experience Survey 2002: Technical Report* (AADAC, 2003b).

The Alberta Youth Experience Survey questionnaire comprised 84 questions. One questionnaire was used for all six school grades surveyed (7 through 12). The questionnaire was based on comparable studies conducted in other provinces and states. The study's dependent measures are alcohol, tobacco, other drugs, and gambling use and abuse. The independent and co-varying measures included in the study are described in a risk and protective factors framework associated with the work of Hawkins et al. (1992) and Newcomb and Felix-Ortiz (1992).

Sample

The study was based on a school survey of 3,394 Alberta youth in grades 7 to 12 in the "publicly elected" school system[1] in October and November 2002. The sample was designed as a stratified random cluster sample with selection proportionate to classroom size. The sample was stratified by five regions aggregated from regional health authority boundaries as they existed in April 2002 and by school grade. The survey was administered in randomly selected classrooms in 89 schools in 39 school divisions throughout the province.

The entire sample of students ranged from 11 - 20-year-olds; however, the majority of the sample (96%) was aged 12 to 17. Slightly over half (56%) of the sample was female, and 3% was of Aboriginal origin.

Ethics

Ethics approval was obtained from a duly constituted ethics review board consistent with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (Alberta Heritage Foundation for Medical Research, 2001). The survey was conducted in compliance with the Health Information Act (2001) and the Freedom of Information and Protection of Privacy Act (1995). Active, informed parental consent was required. Youth and parent names were kept confidential by the schools that participated in the survey and research staff had no access to these names.

Survey Process

The questionnaire and survey processes were pre-tested in one school with students in grades 7 to 12 (the French language version of the questionnaire was pre-tested with a French immersion class). Research staff administered the 84-question survey. *The Alberta Youth Experience Survey 2002: Technical Report* (AADAC, 2003b) outlines measures taken to reduce misrepresentation by students answering the questionnaire. The response rate of 52% is consistent with similar surveys using active informed consent.

Data Analysis

All results reported are based on weighted sample strategy, which ensured proper representation from all areas of Alberta. The sample of 3,394 students represents over 263,000 Alberta students in grades 7 to 12. Readers are referred to *The Alberta Youth Experience Survey 2002: Technical Report* (AADAC, 2003b) for more details on the weighting strategy.

Alcohol use and harmful use of alcohol were analyzed based on six factors: gender, grade (grades 7 to 12), region (north, central, south, Edmonton, Calgary)[2] , ethnicity (Aboriginal, non-Aboriginal), living arrangement and amount of weekly spending money. Living arrangement consisted of the following five categories: both natural parents, natural father only, natural mother only, one natural parent and one step-parent, and neither natural parents. Amount of weekly spending money consisted of eight categories: less than five dollars, $6 to $10, $11 to $20, $21 to $30, $31 to $40, $41 to $50, more than $50, and no set amount.

Chi-square tests were used to determine the relationship and level of significance of comparisons

[1] Based on students registered for 2001/2002, 268,201 students were included in the study target population of publicly elected schools. Students (17,334) from 224 private, federal and provincial schools were excluded from the sample (AADAC, 2003).

[2] For more detailed information on the Regions used in TAYES, please see The Alberta Youth Experience Survey 2002: Technical Report (AADAC, 2003b).

made for each question of analysis. Each of the analyses is statistically significant at the .0005 level and missing values were not included in the analyses, unless otherwise noted.

The chi-square results are reported as sub-tables rather than separate tables. Separate chi-square tests were performed to determine statistical significance—one for each sub-table. Each of these sub-table analyses was statistically significant at the .0005 level unless otherwise noted.

When specific comparisons are made between two different groups (for example, alcohol drinkers and non-drinkers in the Central region), 95% confidence intervals (CI) were used to determine whether the differences are statistically significant or due to chance. If the confidence intervals are not overlapping, the difference between the two groups is statistically significant. In the results section, only those comparisons that are statistically significant have the 95% confidence intervals listed.

Limitations

Methodological limitations of TAYES are identified in *The Alberta Youth Experience Survey 2002: Technical Report* (AADAC, 2003b). Only limitations relevant to this analysis are identified here.

Using a multi-stage stratified sample design requires weighting to adjust the sample proportions to reflect the sub-population values in their true proportions. Implications of using weighted data are 1) if the sample is not representative of the strata, applying a weight factor will exaggerate the bias, and 2) using weighted data will increase level of significance. As a result, frequencies reported are based on weighted data for better representation of the population while statistical tests were conducted on un-weighted data to more accurately estimate the significance level.

The small number of youth in some subgroups precluded the use of statistical tests for some proportional differences. Significant proportional differences are identified only where there were at least 10 observed cases in each grouping.

These results cannot be generalized to youth who are not attending school (e.g., street youth). Substance use in such a group is likely different from that of the student population (Adlaf & Paglia, 2003).

ALCOHOL USE

This section presents results addressing six questions concerning youth alcohol use. More specifically, findings related to prevalence, frequency and quantity of alcohol use as well as grade of first use (school grade youth were enrolled in when they first used alcohol), access to alcohol and drinking at outdoor parties are presented. These findings are further examined by six factors: gender, grade, region, ethnicity, living arrangement and weekly spending money.

What proportion of youth drinks alcohol?

Over half of the youth surveyed (56.3%) reported drinking alcohol during the 12 months before the survey. This represents an estimated 151,000 youth in grades 7 through 12 in Alberta. Conversely, 43.7% of youth were non-drinkers, which represents an estimated 117,000 youth in grades 7 through 12 in the publicly elected school system in Alberta. Non-drinkers refer to those youth who indicated they "drank alcohol, but not in the last 12 months", "never drank alcohol" or "had a sip to see what it is like." Drinkers include those youth who selected any other response.

As shown in Table 1, four factors were statistically significant in terms of alcohol use and non-use: grade, region, living arrangement and weekly spending money. Gender and ethnicity were not statistically significant.

Grade—The percentage of youth who were drinkers increased by grade. Less than a fifth (17.6%) of Grade 7 youth and just over a third (37.3%) of Grade 8 youth reported using alcohol. About half (52.4%) of Grade 9 youth had used alcohol. There is a notable transition at Grade 10, where more than two-thirds (70.7%) had used alcohol. Most Grade 11 and 12 youth had used alcohol (73.3% and 81.2% respectively).

Region—The proportion of youth who had used alcohol is highest in the central region (62.3%; CI 55.1% to 69.4%).

Living arrangement—A higher proportion of youth living with their natural father only (87.9%; CI 80.3% to 95.5%), one natural parent and one step-parent (68.2%; CI 57.6% to 78.8%), and neither natural parents (64.7%; CI 51.5% to 77.9%) had consumed alcohol in the last 12 months compared to the other living arrangements.

Weekly spending money—Youth with weekly spending amounts of more than $10.00 were more likely to have used alcohol in the last 12 months.

Table 1: Alcohol use in last 12 months among youth (as percentages)*

	Never used alcohol	Used alcohol
Total	43.7	56.3
Grade		
Grade 7	82.4	17.6
Grade 8	62.7	37.3
Grade 9	47.6	52.4
Grade 10	29.3	70.7
Grade 11	26.7	73.3
Grade 12 (<20 yrs old)	18.8	81.2
Region		
North region	44.1	55.9
Edmonton	45.3	54.7
Central region	37.7	62.3
Calgary	39.9	60.1
South region	55.4	44.6
Living Arrangement		
Both natural parents	47.1	52.9
My natural father only	12.1	87.9
My natural mother only	41.0	59.0
One natural parent and one step parent	31.8	68.2
Neither of my natural parents	35.3	64.7
Weekly Spending Money		
Less than $5	71.1	28.9
$6 - $10	61.7	38.3
$11 - $20	38.6	61.4
$21 - $30	47.3	52.7
$31 - $40	20.9	79.1
$41 - $50	19.1	80.9
More than $50	14.2	85.8
No set amount	43.6	56.4

* Note. All students were asked to answer this question.

How often do youth drink?

Of youth who had drunk alcohol in the last 12 months, slightly more than half (53.9%) drank only at special events or up to once a month, 24.1% drank alcohol two to three times per month and 22.0% drank once a week or more.

Among drinkers, three of the six factors (gender, grade, and weekly spending money) were significantly related to frequency of alcohol use during the last 12 months. Region, ethnicity and living arrangement were not statistically significant.

Gender—As shown in Table 2, of youth who drank, about half of females (55.5%) and males (51.5%) drank only at special events or once per month or less. However, a larger percentage of males (25.3%) drank once a week or more compared to females (19.4%).

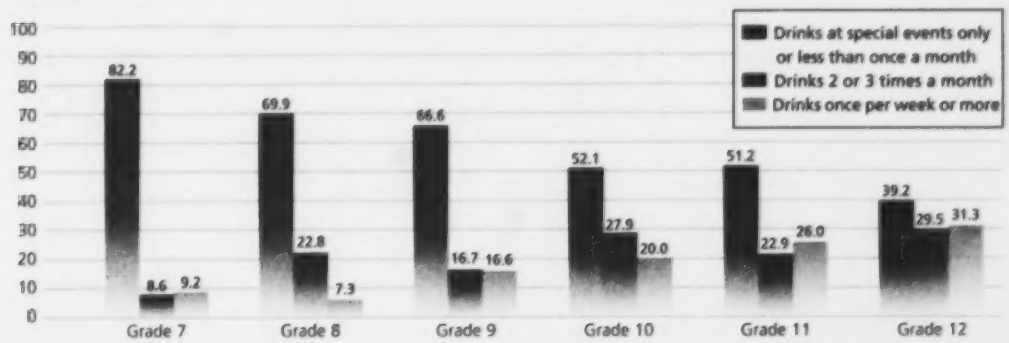
Grade—Figure 1 illustrates frequency of alcohol use among drinkers during the previous 12 months by grade level. It clearly shows that frequency of drinking increases significantly with grade. Most Grade 7 youth (82.2%) who drank in the previous year drank only at special occasions or once per month or less. By Grade 9, about two-thirds (66.6%) of drinkers drank only at special occasion or once per month or less and by Grade 12 the percentage drops to 39.2%.

Weekly spending money—Of those who drank alcohol, about a third of youth with weekly spending amounts of "$31-$40" and "more than $50", drank once a week or more (see Table 2).

Table 2: Frequency of alcohol use among youth who drank alcohol in the last 12 months (as percentages)

	Drank only at special events or drank once a month or less often	Drank 2-3 times a month	Drank once a week or more
Total	53.9	24.1	22.0
Gender			
Male	51.5	23.1	25.3
Female	55.5	25.1	19.4
Weekly Spending Money			
Less than $5	55.6	25.2	19.2
$6 - $10	65.1	24.1	10.8
$11 - $20	59.5	24.8	15.6
$21 - $30	54.0	21.2	24.8
$31 - $40	45.8	22.8	31.4
$41 - $50	55.7	32.8	11.6
More than $50	39.2	23.9	36.9
No set amount	54.0	23.5	22.4

Figure 1: Frequency of alcohol use among youth who drank alcohol in the last 12 months (as percentages)



How much do youth drink?

Quantity of alcohol consumption is examined in two ways: (1) number of drinks containing alcohol consumed on a typical day when drinking, and (2) frequency of heavy drinking (defined as drinking five or more drinks on one occasion).

Of those youth who are drinkers, over a third (37.1%) usually drink one to two drinks on a typical day when they are drinking (see Table 3). Another quarter (26.0%) of those who drink have three to four drinks and just over a third (36.9%) report heavy drinking by consuming five or more drinks on a typical day when drinking

Two of the six factors (gender and grade) were significantly related to the quantity or number of drinks consumed per occasion. Region, ethnicity, living arrangement and weekly spending money were not significant.

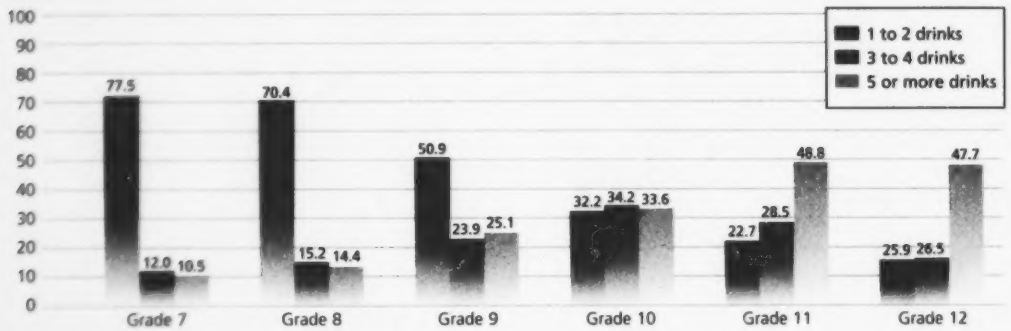
Gender—In addition to drinking more frequently, males were more likely to drink more than females (see Table 3). Forty-four per cent of males (44.0%) drank five or more drinks on a typical day when drinking, whereas 31.2% of females did.

Grade—Figure 2 depicts the number of drinks on a typical day when drinking, by grade. It clearly shows that as grade increases, the percentage of youth drinking more drinks per occasion also increases. For example, junior high youth who drank mostly consumed one to two drinks per occasion; however, this gradually decreases from 77.5% in Grade 7 to 50.9% in Grade 9. In grades 11 and 12, just under half of youth drinkers consume 'five or more drinks' per occasion.

Table 3: Number of drinks containing alcohol on a typical day when drinking among youth who drank alcohol in the last 12 months (as percentages)

	1 to 2 drinks	3 to 4 drinks	5 or more drinks
Total	37.1	26.0	36.9
Gender			
Male	33.6	22.3	44.0
Female	38.0	30.8	31.2

Figure 2: Number of drinks containing alcohol on a typical day when drinking, by grade (as percentages)



In terms of frequency of heavy drinking, over a third (38.3%) of youth drinkers never drink five or more drinks on one occasion (see Table 4). Over one-quarter of drinkers (28.2%) do so less than once a month, 19.1% drink heavily about once a month, and 14.4% do so about once a week or more.

Only grade was significant in terms of frequency of youth drinking five drinks or more per occasion. Gender, region, ethnicity, living arrangement, and weekly spending money were not significant.

Grade—As shown in Table 4, the frequency of drinking heavily increases with grade. In Grade 7 most youth (80.5%) never drink five or more drinks per occasion. By Grade 12, about a third (33.8%) of youth drink heavily less than once per month.

Table 4: Frequency of drinking five or more drinks on one occasion among drinkers (as percentages)

	Never	Less than once a month	About once a month	Once a week or more
Total	38.3	28.2	19.1	14.4
Grade				
Grade 7	80.5	10.5	3.3	5.8
Grade 8	64.3	20.8	11.9	3.1
Grade 9	55.5	22.5	16.5	5.5
Grade 10	36.5	30.6	20.4	12.5
Grade 11	28.1	30.2	20.6	21.1
Grade 12 (<20 yrs old)	21.2	33.8	23.7	21.3

In which school grade do youth first drink alcohol?

About 60% of youth drinkers first drank alcohol when they were in junior high school, with almost a quarter (23.4%) first drinking when they were in Grade 7. In terms of the six factors, gender was the only statistically significant factor, with males first drinking alcohol before females. That is, more males first drank alcohol in elementary school than females (see Table 5). Conversely, more females than males first drank alcohol when in junior high.

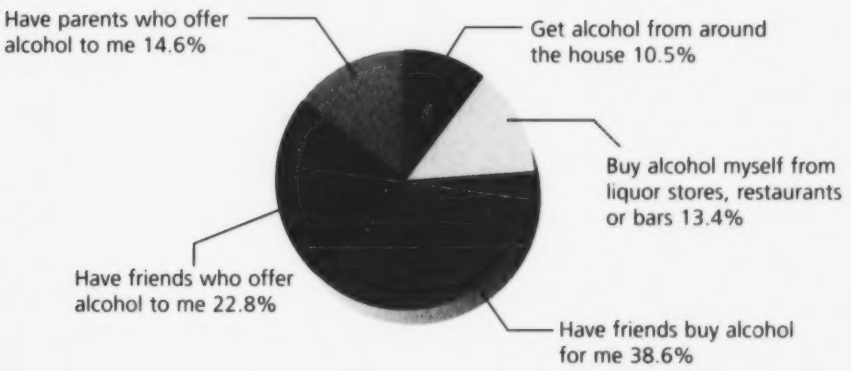
Table 5: Grade first drank alcohol among youth who drank alcohol in the last 12 months (as percentages)

	Grade 4 or before	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Total	10.7	5.7	13.2	23.4	18.4	18.2	7.6	2.0	0.8
Gender									
Male	14.9	7.1	14.9	22.9	15.8	15.3	6.2	2.4	0.6
Female	7.0	4.5	11.8	24.0	20.9	21.0	8.0	1.6	1.1

How do youth usually get alcohol?

As shown in Figure 3, youth drinkers report that the most common source of alcohol is having friends buy it for them (38.6%) or from friends who offer alcohol to them (22.8%). To a lesser extent, 13.4% buy alcohol themselves from liquor stores, restaurants or bars, 14.6% obtain it from parents who offer alcohol, and 10.5% get it from around the house.

Figure 3: How youth usually get alcohol among those who drank in the last 12 months


Have parents who offer alcohol to me 14.6%
Get alcohol from around the house 10.5%
Buy alcohol myself from liquor stores, restaurants or bars 13.4%
Have friends who offer alcohol to me 22.8%
Have friends buy alcohol for me 38.6%

Four of the six factors analyzed were significant in how youth get alcohol: grade, region, ethnicity, and weekly spending money (see Table 6). Gender and living arrangement were not significant.

Grade—As shown Table 6, as grade increases the source of alcohol for current drinkers changes. In grades 7 and 8 the most common sources of alcohol are parents who offer alcohol, friends who offer alcohol, and getting alcohol from around the house. In high school, the most common sources are friends buying alcohol and friends offering alcohol. In Grade 12, almost a third of youth buy alcohol themselves. About 30% of this group is aged 18 or older.

Region—In all regions, the most common source for alcohol was friends buying alcohol. However, this source was prevalent in the central region (46%), Calgary (40.9%) and the south region (42.8%).

Ethnicity—The most common source of alcohol for non-Aboriginal youth is having friends buy them alcohol (39.2%). For Aboriginal youth, the most common source for alcohol is buying it themselves from liquor stores, restaurants or bars (36.2%). About 9% of this group is aged 18 or older.

Weekly spending money—As the amount of weekly spending money increases, a greater proportion of youth have friends buy alcohol for them.

Table 6: How youth usually get alcohol among those who drank in the last 12 months (as percentages)

	Buy alcohol myself from liquor stores, restaurants or bars	Have friends buy alcohol for me	Have friends who offer alcohol to me	Have parents who offer alcohol to me	Get alcohol from around the house
Total	13.4	38.6	22.8	14.6	10.5
Grade					
Grade 7	0.0	5.0	24.4	37.6	33.0
Grade 8	0.5	16.6	26.1	42.5	14.3
Grade 9	3.2	28.9	25.3	25.0	17.6
Grade 10	3.0	48.3	22.8	10.6	15.3
Grade 11	13.7	44.6	25.7	11.6	4.4
Grade 12 (<20 yrs old)	31.6	43.8	18.1	2.5	4.0
Region					
North region	12.2	34.7	22.6	20.3	10.2
Edmonton	23.2	31.4	24.6	12.8	7.9
Central region	9.6	46.0	18.3	14.7	11.3
Calgary	10.3	40.9	22.5	12.8	13.5
South region	7.1	42.8	27.0	16.1	7.0
Ethnicity					
Non-Aboriginal	12.6	39.2	22.8	15.0	10.4
Aboriginal	36.2	23.1	21.5	3.9	15.3
Weekly Spending Money					
Less than $5	17.7	24.0	6.7	22.6	29.0
$6 – $10	.6	21.3	42.9	27.5	7.6
$11 – $20	13.2	34.9	31.3	13.1	7.5
$21 – $30	2.3	41.4	29.9	9.9	16.6
$31 – $40	2.7	48.6	26.4	12.7	9.6
$41 – $50	10.8	53.8	3.8	14.8	16.7
More than $50	6.1	50.3	29.0	13.5	1.1
No set amount	16.3	38.8	19.8	14.1	11.0

When asked about how difficult it is to get alcohol, over half (57.6%) of youth drinkers report that it is extremely easy to get alcohol, and another 32.4% report it is fairly easy to get alcohol (see Table 7). In terms of the six factors, gender, region, ethnicity, living arrangement, and weekly spending money were not significant. Only grade was significant. Not surprisingly, as grade increases, the percentage of youth reporting it is extremely easy to get alcohol increases, going from 34.3% in Grade 7 to 72.4% in Grade 12 (see Table 7).

Table 7: Degree of difficulty to get alcohol among youth who drank alcohol in the last 12 months (as percentages)

	Extremely difficult	Fairly difficult	Fairly easy	Extremely easy	Don't know
Total	1.2	4.5	32.4	57.6	4.3
Grade					
Grade 7	14.1	7.9	27.0	34.3	16.7
Grade 8	2.6	9.7	42.3	38.5	6.9
Grade 9	1.1	7.8	37.0	49.9	4.2
Grade 10	0.3	2.2	39.0	51.9	6.5
Grade 11	0.1	6.8	28.7	63.4	0.9
Grade 12 (<20 yrs old)	0.0	0.3	25.3	72.4	2.0

What proportion of youth attends outdoor parties where alcohol or other drugs are present?

Over a third of all youth have attended an outdoor party (such as a bush party or beach party) where party goers consumed alcohol or other drugs. Of youth who had consumed alcohol in the last 12 months, over half (59.3%) had attended an outdoor party.

Of the six factors analyzed, four were significant: grade, region, living arrangement and weekly spending money (Table 8). Gender and ethnicity were not significant.

Grade—Among youth drinkers, as grade increased, a greater percentage of youth had attended an outdoor party. In Grade 7, less than one-fifth of youth (18.9%) had attended an outdoor party, whereas in Grade 12, over two-thirds (70.7%) had attended an outdoor party.

Region—Compared to the other regions, a higher percentage of youth in the south region (67.8%) had attended an outdoor party.

Living arrangement—Youth living with their natural father only were more likely to have attended an outdoor party than youth in other living arrangements.

Weekly spending money—Youth with weekly spending money of "$31 to $40" and "more than $50" were more likely to have attended an outdoor party.

Table 8: Attendance at outdoor parties among youth who drank alcohol in the last 12 months (as percentages)

	Yes	No
Total	59.3	40.7
Grade		
Grade 7	18.9	81.1
Grade 8	43.4	56.6
Grade 9	47.5	52.5
Grade 10	59.7	40.3
Grade 11	68.6	31.4
Grade 12 (<20 yrs old)	70.7	29.3
Region		
North region	59.7	40.3
Edmonton	54.4	45.6
Central region	60.7	39.3
Calgary	59.4	40.6
South region	67.8	32.2
Living Arrangement		
Both natural parents	58.6	41.1
My natural father only	82.5	17.5
My natural mother only	51.0	49.0
One natural parent and one step parent	60.0	40.0
Neither of my natural parents	66.6	33.4
Weekly Spending Money		
Less than $5	60.8	39.2
$6 – $10	45.2	54.8
$11 – $20	52.3	47.7
$21 – $30	52.6	47.4
$31 – $40	85.3	14.7
$41 – $50	41.5	58.5
More than $50	76.1	23.9
No set amount	59.1	40.9

When asked about their consumption of alcohol and/or drugs at outdoor parties, about half (48.0%) of these youth described their consumption as moderate, one-quarter (25.5%) said their consumption was excessive, about one-fifth (18.2%) said minimal, and 8.3% did not consume any alcohol or other drugs (see Table 9). In terms of the six factors, grade was the only significant factor. There were no significant differences for gender, region, ethnicity, living arrangement, and weekly spending money.

Grade—Consistent with previous findings, youth in lower grades reported less alcohol consumption than those youth in higher grades. As shown in Table 9, youth in high school were more likely to consume alcohol or other drugs than youth in junior high. If youth in junior high did consume alcohol or other drugs, their consumption was more likely to be minimal or moderate compared to high school youth. Correspondingly, high school youth were more likely to report moderate and some excessive consumption.

Table 9: Consumption of alcohol and/or drugs at outdoor parties among youth who drank alcohol in the last 12 months (as percentages)

	Minimal	Moderate	Excessive	Did not consume alcohol and/or drugs
Total	18.2	48.0	25.5	8.3
Grade				
Grade 7	24.7	29.7	19.6	26.0
Grade 8	25.9	31.4	11.6	31.0
Grade 9	24.6	38.4	19.9	17.1
Grade 10	12.8	55.3	26.9	4.9
Grade 11	14.1	47.8	33.2	5.0
Grade 12 (<20 yrs old)	20.3	51.4	24.3	4.1

ALCOHOL-RELATED HARM

This section presents results addressing four questions concerning youth experiencing harm as a result of their alcohol use. More specifically, findings related to missing commitments as a result of alcohol use, drinking and driving, signs of hazardous or harmful drinking and seeking treatment are discussed here. These findings are further examined by the six factors: gender, grade, region, ethnicity, living arrangement and weekly spending money.

How often do youth miss commitments because of drinking alcohol?

Youth drinkers were asked how often drinking alcohol had caused them to miss commitments in the last 12 months such as missing school or work, missing school deadlines (e.g., homework assignments), and missing commitments to family or friends. As shown in Table 10, the two most common missed commitments were missed homework assignment or school deadlines (22.7%) and missed commitments to friends (14.3%). The majority of youth never missed school (94.7%), important family commitments (92.8%), or work (92.1%) as a result of their drinking. There were no significant differences in missed commitments related to gender, grade, region, ethnicity, living arrangement or weekly spending money.

Table 10: Missed commitments as a result of alcohol use among youth who drank in the last 12 months (as percentages)

How often during the last 12 months has drinking alcohol caused you to miss out on the following?

	Never	Less than once a month	About once a month	About once a week	Almost daily or daily
Missed school	94.7	3.7	1.3	0.2	0.2
Missed important family commitment	92.8	4.7	1.4	0.7	0.3
Missed going to work	92.1	6.7	1.1	0.0	0.1
Missed an important commitment to a friend	85.7	10.8	3.3	0.0	0.2
Missed homework assignment or school deadline	77.3	12.5	6.8	1.9	1.5

How often do youth drive while impaired by alcohol?

Most youth drinkers (84.0%) report that they have not driven within an hour of consuming two or more alcoholic beverages. As shown in Table 11, 10.9% report having driven after drinking once or twice in the previous 12 months and about 5.0% report having done so multiple times.

Of the six factors analyzed, only gender and grade were significant factors. There were no significant differences for region, ethnicity, living arrangement, and weekly spending money.

Gender—As shown in Table 11, males are more likely to drive after drinking alcohol than females. About 89% of females report never driving after drinking two or more alcoholic beverages compared to 78.9% of males. Of male drinkers, 13% had driven after drinking one to two times in the past year and 8.1% had done so multiple times.

Grade—Driving after drinking alcohol increases with grade (see Table 11). There is a noticeable shift in Grade 10 with about 14% of youth reporting that they have driven after drinking alcohol once or more in the previous 12 months compared to about 4% of youth in Grade 9.

Table 11: Drinking and driving among youth who drank in the last 12 months (as percentages)

	Never	1-2 times	3-7 times	8+ times
Total	84.0	10.9	4.2	0.9
Gender				
Male	78.9	13.0	6.6	1.5
Female	88.5	9.1	1.9	0.4
Grade				
Grade 7	98.8	0.7	0.4	0.0
Grade 8	92.9	5.2	1.6	0.4
Grade 9	96.1	3.0	0.8	0.1
Grade 10	85.6	10.8	2.8	0.8
Grade 11	82.4	14.5	1.6	1.5
Grade 12 (<20 yrs old)	72.3	16.1	10.3	1.3

How many youth report signs of hazardous or harmful drinking?

A research group at the World Health Organization (Babor et al., 1987) developed the Alcohol Use Disorders Identification Test (AUDIT). The AUDIT comprises 10 questions used to indicate hazardous or harmful drinking. Hazardous drinking refers to an established pattern of drinking that increases the likelihood of future medical and physical problems (e.g., accidents). Harmful drinking refers to a pattern of drinking that is already causing damage to one's health (e.g., alcohol-related injuries). The AUDIT score equals the sum of all the points for all 10 questions. Scores range from 0 to 40. Scores of 11 or higher were interpreted as "hazardous or harmful." See the Appendix for details on the specific questions of the AUDIT.

Most youth (87%) did not report signs of hazardous or harmful alcohol use. Among youth who had drunk in the last 12 months, about three-quarters (76.2%) did not report signs of hazardous or harmful alcohol use.

Of the six factors analyzed, only grade and weekly spending were significant factors. There were no significant differences for gender, region, ethnicity, and living arrangement (Table 12).

Grade—As grade increases, youth drinkers are more likely to report signs of hazardous or harmful alcohol use (see Table 12). Notably, almost a third of youth drinkers in Grade 11 and Grade 12 report signs of hazardous or harmful alcohol use.

Weekly spending money—Just over half of youth drinkers with weekly spending money of "more than $50" were more likely to report signs of hazardous or harmful alcohol use.

Table 12: Signs of hazardous or harmful drinking as measured by the AUDIT among youth who drank alcohol in the last 12 months (as percentages)

	No signs of harmful or hazardous drinking	Signs of harmful or hazardous drinking
Total	76.2	23.8
Grade		
Grade 7	95.8	4.2
Grade 8	83.6	16.4
Grade 9	84.7	15.3
Grade 10	81.8	18.2
Grade 11	67.1	32.9
Grade 12 (<20 yrs old)	70.1	29.9
Weekly Spending Money		
Less than $5	95.6	4.4
$6 – $10	88.5	11.5
$11 – $20	77.5	22.5
$21 – $30	84.3	15.7
$31 – $40	78.6	21.4
$41 – $50	91.4	8.6
More than $50	46.6	53.4
No set amount	76.1	23.9

Results of seven select items of the AUDIT are presented in Table 13. Most youth who drank (82.5%) did not find that they were unable to stop drinking once they started. Only gender was a significant factor, with more males (4.7%) than females (2.6%) reporting that about once a week or more they were unable to stop drinking once they started.

The vast majority of youth who drank alcohol (93.6%) never needed a drink of alcohol in the morning to get them going after a heavy drinking session (Table 13). However, just under a third did report feeling guilty after drinking, albeit less than once a month. There were no significant differences for these two AUDIT items in terms of the six factors analyzed (gender, grade, region, ethnicity, living arrangement, and weekly spending money).

Just under half (43.6%) of youth drinkers reported not being able to remember what happened the night before because they had been drinking. There was a significant difference for grade and ethnicity. The other factors were not significant.

> ***Grade***—As grade increases, youth drinkers are more likely to report not being able to remember what happened the night before because they had been drinking, especially youth in high school (see Table 14).
>
> ***Ethnicity***—As shown in Table 14, just over half of youth drinkers who are Aboriginal report not being able to remember what happened the night before because they had been drinking compared to less than half of non-Aboriginal youth drinkers.

About a third of youth drinkers reported not doing things they were supposed to because of their drinking (Table 13). Grade was the only significant factor of the six factors analyzed. As grade increases, youth drinkers are more likely to indicate that they have not done things they were supposed to because of their drinking (data not shown).

About one-fifth (19%) of youth drinkers reported that they or someone else had been injured as a result of their drinking previous to the last 12 months or during the last 12 months (Table 13). There were significant differences in terms of three of the six factors: grade, ethnicity and living arrangement.

> ***Grade***—As shown in Table 15, about one-fifth of youth drinkers in grades 11 and 12 (19.9% of Grade 11 students and 19.1% of Grade 12 students) are more likely than youth in other grades to report that they or someone else has been injured as a result of their drinking.
>
> ***Ethnicity***—About the same proportion of youth drinkers who are Aboriginal (13.9%) and non-Aboriginal (13.1%) reported that they or someone else had been injured as a result of their drinking during the last 12 months. However, a higher proportion of Aboriginal youth (16.7%) than non-Aboriginal youth (4.8%) report that they or someone else had been injured as a result of their drinking—but not in the last 12 months.
>
> ***Living arrangement***—Youth in living arrangements other than "both natural parents" are more likely to report that they or someone else had been injured as a result of their drinking during the last 12 months (see Table 15).

Finally, the majority (92.1%) of youth drinkers have not had a relative, friend, doctor or other health care worker express concern about their drinking or suggest that they cut down. There were no significant differences in terms of the six factors analyzed.

Table 13: Select AUDIT items of signs of hazardous or harmful alcohol use among youth who drank in the last 12 months (as percentages)

During the last 12 months...

	Never	Less than once a month	About once a month	About once a week or more
How often have you found that you were not able to stop drinking once you had started?	82.5	9.3	4.6	3.6
How often have you needed a drink of alcohol in the morning to get yourself going after a heavy drinking session?	93.6	3.0	1.9	1.5
How often have you had a feeling of guilt after drinking?	70.8	22.0	5.6	1.6
How often have you been unable to remember what happened the night before because you had been drinking?	56.4	27.1	10.9	5.7
How often have you not done things you were supposed to because of your drinking?	67.7	19.2	11.1	1.9

	No	Yes, but not in the last 12 months	Yes, during the last 12 months
Have you or someone else been injured as a result of your drinking?	81.0	5.2	13.9
Has a relative or friend or a doctor or other health care worker, been concerned about your drinking or suggested you cut down?	92.1	2.0	5.9

Table 14: Responses from youth who drank alcohol in the last 12 months (as percentages) to the question, "How often have you been unable to remember what happened the night before because you had been drinking?"

	Never	Less than once a month	About once a month	About once a week or more
Grade				
Grade 7	81.6	13.3	2.2	2.9
Grade 8	75.8	10.0	13.4	0.7
Grade 9	63.3	21.2	7.3	8.2
Grade 10	55.0	24.1	16.0	4.9
Grade 11	53.6	24.7	11.4	10.2
Grade 12 (<20 yrs old)	44.6	42.4	9.2	3.8
Ethnicity				
Non-Aboriginal	56.7	26.9	10.9	5.5
Aboriginal	46.2	33.0	9.1	11.7

Table 15: Responses from youth who drank alcohol in the last 12 months (as percentages) to the question, "Have you or someone else been injured as a result of your drinking?"

	No	Yes, but not in the last 12 months	Yes, during the last 12 months
Grade			
Grade 7	91.1	4.4	4.5
Grade 8	89.3	2.5	8.2
Grade 9	86.8	4.1	9.1
Grade 10	88.4	2.7	8.9
Grade 11	75.3	4.7	19.9
Grade 12 (<20 yrs old)	71.8	9.1	19.1
Ethnicity			
Non-Aboriginal	81.3	4.8	13.9
Aboriginal	70.2	16.7	13.1
Living Arrangement			
Both natural parents	84.2	4.6	11.2
My natural father only	69.1	6.0	24.9
My natural mother only	72.8	9.1	18.2
One natural parent and one step parent	77.9	4.2	17.9
Neither of my natural parents	74.8	5.7	19.4

How many youth have sought treatment for their alcohol use?

Not many youth report having sought treatment. Within the last 12 months, 1.1% of youth indicated that they had been to a treatment program because of their alcohol use. There were no significant differences related to gender, grade, region, ethnicity, living arrangement or weekly spending money.

SUMMARY

This brief TAYES report provides insight into the extent of alcohol use and alcohol-related harm among youth in Alberta. It gives current information about the adolescent alcohol-using population, patterns of alcohol use and abuse, and risk factors related to alcohol use and abuse.

- Over half (56.3%) of youth surveyed were current drinkers, having drunk alcohol during the 12 months before the survey. Compared to other Canadian student surveys, Alberta youth are less likely to drink alcohol than Ontario students (66.2%) and slightly more likely to drink alcohol than Nova Scotia students (51.7%) (Adlaf & Paglia, 2003; Poulin & Wilbur, 2002).
- Slightly more than half (53.9%) of current drinkers drank only at special events or up to once per month, 42.1% drank alcohol two to three times per month and 22% drank once a week or more.
- Over a third (37.1%) of current drinkers consume one to two drinks on a typical day when they are drinking. About a quarter (26%) have three or four drinks, and 36.9% report drinking five or more drinks on a typical day when drinking. In terms of frequency of heavy drinking (five or more drinks per occasion), approximately one-fifth (19.1%) drink heavily about once per month and 14.4% do so about once a week or more.
- About 60% of current drinkers first drank when they were in junior high school, with 23.4% first drinking when they were in Grade 7.
- In grades 7 and 8, the most common sources of alcohol are parents who offer alcohol, friends who offer alcohol, and getting alcohol from around the house. In high school, the most common sources are friends buying alcohol and friends offering alcohol.
- Over a third of all youth have attended an outdoor party, such as a bush party or beach party, where there was consumption of alcohol or other drugs. Over half (59.3%) of current drinkers have attended an outdoor party, 48% described their alcohol and other drug consumption as moderate, and 25.5% describe excessive alcohol or drug use.
- Among current drinkers, the two most common commitments missed due to drinking alcohol were a homework assignment or school deadline and an important commitment to a friend.
- Of youth who drank alcohol in the 12 months previous to the survey, most (84%) report that they had not driven within an hour of consuming two or more alcoholic beverages.
- Most youth (87%) do not report signs of hazardous or harmful alcohol use when asked about their drinking in the 12 months prior the survey. However, for current drinkers this proportion is lower—three-quarters (76.2%) of current drinkers do not report signs of hazardous or harmful alcohol use.
- Only 1.1% of current drinkers sought treatment because of their alcohol use.

When examining gender, grade, region, ethnicity, living arrangement or weekly spending money, grade was by far the most important factor related to alcohol use for youth. This is consistent with research literature. As grade increased, the proportion of youth using alcohol in the previous year increased. As grade increased, both the quantity of alcohol consumed and frequency of drinking alcohol increased. As grade increased, the proportion of youth attending an outdoor party increased and youth were more likely to report moderate or excessive alcohol consumption at the party. As grade increased, harm related to alcohol use increased.

DISCUSSION

Grade

As grade increased, both alcohol use and alcohol-related harm increased. There was a notable change in alcohol use from Grade 9 to Grade 10. From 52.4% in Grade 9, there was an increase in current drinkers to 70.7% in Grade 10. Similarly, quantity and frequency of drinking alcohol increased at Grade 10. By grades 11 and 12, almost half of youth drinkers drank heavily (consumed five or more drinks per occasion), versus about 10% of youth in Grade 7. As well, about one-third of youth in grades 11 and 12 reported signs of hazardous or harmful alcohol use.

This trend of increased consumption and potential harmful use of alcohol at the Grade 10 level and beyond in North America is well documented in research literature (AADAC, 2003b). Further, some research literature states that heavy drinking or binge drinking has a stronger association with unsafe sexual practices, driving while impaired, and injury (Sindelar, Barnett, & Spirito, 2004; AADAC, 2005) than non-binge drinking does.

TAYES results on specific items of the AUDIT are consistent with this literature. As grade increased, youth drinkers were more likely to report not being able to remember what happened the night before because they had been drinking. Further, youth drinkers in grades 11 and 12 were more likely to report that they or someone else had been injured as a result of their drinking. Drinking and driving was also more common for youth in high school. In grades 10 through 12, 14% to 28% of current drinkers reported having driven after consuming alcohol, a noticeable shift from 4% of youth in Grade 9. Some youth turn age 16 in Grade 10, the legal licensing age for driving in Alberta, which might in part account for this shift.

A final point on grade concerns how youth obtain alcohol. The most common means of obtaining alcohol shifted from parents or friends offering alcohol in the junior high years to youth drinkers having friends buy alcohol for them and buying alcohol themselves in the high school years.

As well, as grade increased, youth reported easier access to alcohol.

Gender

Gender was another significant factor. The percentage of male current drinkers was slightly higher than the percentage of female current drinkers (59.7% versus 53.6%), but this was not statistically significant. Males were, however, more likely to drink more, to drink more often and to have started drinking in an earlier grade than females. As well, male current drinkers were more likely to have driven after drinking than females. This is consistent with other study findings (Adlaf & Paglia, 2003).

Access to alcohol

Ease of access to alcohol, availability of alcohol and spending money to buy alcohol are important factors related to alcohol use among youth. In this analysis, there were only a few findings of note related to weekly spending amounts. Youth with weekly spending amounts greater than $10 or no set amount were more likely to be current drinkers. Further, as the amount of weekly spending money increased, youth were more likely to have had friends buy alcohol for them and were more likely to have attended an outdoor party.

Ethnicity

While the literature suggests that youth of Aboriginal ethnicity are over-represented in high-risk populations (Health Canada, 2001), the findings here were somewhat mixed. A higher percentage of Aboriginal youth (65.2%) than non-Aboriginal youth (53.1%) were current drinkers, but this was not statistically significant.

At the time the TAYES was administered in 2002, a difference was observed in how youth obtain alcohol. For Aboriginal youth drinkers, the most common way to get alcohol was to buy it themselves from liquor stores, restaurants or bars. In contrast, the most common source for non-Aboriginal youth was having friends buy alcohol for them.

On specific items of the AUDIT regarding hazardous or harmful drinking, Aboriginal youth drinkers were more likely than non-Aboriginal youth drinkers to be unable to remember what happened the night before because of drinking and were more likely to report that they or someone else had been injured as a result of their drinking.

Living arrangement

Some research suggests that an adolescent's living situation (i.e., living with or without both natural parents) is related to substance use (Levin & George, 2003). There were only a few findings here that support this. Youth living with both natural parents or with their mother only were less likely to be current drinkers than youth living in other types of arrangements. As well, current drinkers living with both natural parents were less likely to report having been injured or someone else being injured as a result of drinking than were current drinkers in any other type of living arrangement.

Region

Despite the diversity in communities and regions of Alberta, few statistically significant differences were found related to youth alcohol use across the five regions (North, Central, South, Edmonton, Calgary). The highest proportion of current drinkers was found in the Central region (62.3%) while a higher percentage (67.8%) of youth drinkers in the South region had attended an outdoor party compared to youth in other regions.

Readers are referred to the brief report on urban and rural differences for a more detailed discussion on region (AADAC, 2004d)

IMPLICATIONS FOR PREVENTION

These findings contribute to an understanding of current patterns of alcohol use by youth in Alberta, which serves as a basis for designing prevention and intervention efforts and informing policy in the province. It emphasizes the need to include focus on alcohol in any substance use prevention initiative, given the high prevalence of its use. These results are important to correcting misconceptions about the prevalence of use. For example, this factual information can be shared with youth to portray an accurate picture of alcohol use by their peers.

Alcohol use increased with grade and patterns of use changed with grade, reinforcing the need for a continuum of prevention efforts. Like the results of other studies (Hawkins et al., 1992), TAYES results suggest that programs to prevent alcohol use or delay the onset of use must begin before junior high school and continue through the high school years. TAYES results are also consistent with those of other studies (AADAC, 2003d) in supporting the need for such prevention programs to be designed to fit with the changes that adolescents undergo throughout the junior high and high school years. This requires that programs be age-appropriate and culturally sensitive to their target group (Levin & George, 2003).

Youth in high school years were more likely to report impaired driving and hazardous or harmful drinking than were youth in junior high school. A targeted approach that includes strategies to reduce harm when alcohol use is likely to continue may be beneficial.

In addition, the results discussed here suggest that at the time the survey was administered in 2002, some youth at the high school level were buying alcohol from commercial sources by themselves even though they were under the legal drinking age. It could be speculated that some youth may not be asked for proof of age when purchasing alcohol or that some may be misrepresenting their true age at point of purchase. This has implications for beverage server training and adherence by commercial sources of alcohol to minimum age laws. Since the TAYES was completed in 2002, the Alberta Gaming and Liquor Commission has increased its public education, training and enforcement efforts to improve compliance with related mandatory identification checks and minimum age policies, resulting in an 86% compliance rate in 2004 (Alberta Gaming and Liquor Commission, 2004).

Although this brief report examined only a few of the many risk factors identified as influential to adolescent substance use, the results support the need for comprehensive prevention efforts that cross all domains (e.g., individual, family, peers, community). If we develop integrated, comprehensive strategies, prevention efforts are more likely to include the different life domains (i.e., individual, family, peer, school and community) and be more effective in reducing alcohol use in general as well as reducing the harmful effects of alcohol.

Further studies are needed to identify trends in substance use. Trend data would be useful in evaluating the effects of prevention and intervention efforts. As this report did not examine protective factors, future studies focusing on those protective factors are warranted.

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APPENDIX

Alcohol Use Disorders Identification Test (AUDIT)

The AUDIT (see Babor et al., 1987) was used to assess "hazardous or harmful" drinking. This scale was constructed from answers to questions 32, 34, 35, 36, 38, 39, 40, 41, 43 and 44. The questions, response categories and points are presented below.

Question 32

In the LAST 12 MONTHS, how often have you drunk alcohol—liquor (rum, whiskey, etc.), wine or beer? "A drink" means a can or bottle of beer or wine cooler, a 4 ounce glass of wine, a shot of liquor (like whiskey, vodka or tequila) or a mixed drink. If you have only had a sip or taste of someone else's drink, or drank wine in a religious service, please indicate that you "Never drank alcohol in life time".

Response	Points
Drank alcohol, but not in the last 12 months	0
Never drank alcohol in lifetime	0
Had a sip of alcohol to see what it is like	0
Drink alcohol only at special events (for example a wedding)	0
Drink alcohol once a month or less often	1
Drink alcohol two or three times a month	2
Drink alcohol once a week	2
Drink alcohol two or three times a week	3
Drink alcohol four or five times a week	4
Drink alcohol almost every day–six or seven times a week	4

Question 34

How many drinks containing alcohol do you have on a typical day when you are drinking?

Response	Points
1 to 2 drinks	0
3 to 4 drinks	1
5 to 6 drinks	2
7 to 9 drinks	3
10 or more drinks	4

Question 35

How often do you have five or more drinks on one occasion?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 36

How often during the LAST 12 MONTHS have you found that you were not able to stop drinking once you had started?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38

How often during the LAST 12 MONTHS have you needed a drink of alcohol in the morning to get yourself going after a heavy drinking session?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 39

How often during the LAST 12 MONTHS have you had a feeling of guilt after drinking?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 40

How often during the LAST 12 MONTHS have you been unable to remember what happened the night before because you had been drinking?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 41

Have you or someone else been injured as a result of your drinking?

Response	Points
No	0
Yes, but not in the last 12 months	2
Yes, during the last 12 months	4

Question 43

How often during the LAST 12 MONTHS have you not done things you were supposed to because of drinking?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 44

Has a relative or friend or a doctor or other health care worker been concerned about your drinking or suggested you cut down?

Response	Points
No	0
Yes, but not in the last 12 months	2
Yes, during the last 12 months	4

The AUDIT score equals the sum of all the points for all 10 questions. Scores range from 0 to 40. Two well-validated cut-off points have been developed for the AUDIT: 1) the Adlaf cut-off and 2) the Babor cut-off.

The Adlaf cut-off was used for The Ontario Student Drug Use Survey (Adlaf & Paglia, 2001). Scores of 11 or higher were interpreted as "hazardous or harmful." Adlaf describes the AUDIT as "... designed to detect problem drinkers at the less severe end of the spectrum of alcohol problems" (p. 135). The AUDIT assesses hazardous and harmful drinking. Hazardous drinking refers to an established pattern of drinking that increases the likelihood of future medical and physical problems (e.g., accidents), whereas harmful drinking refers to a pattern of drinking that is already causing damage to one's health (e.g., alcohol-related injuries). Hazardous drinking is often interpreted as a risk for harm. To avoid confusion with risk factors included in this survey, both hazardous and harmful drinking will be labeled "signs of alcohol abuse."

The Babor cut-off is based on international studies, primarily of adults. Babor et al. (1987) established a hazardous drinking cut-off point of 8 when developing and validating the AUDIT. A variety of studies have used this standard. For comparison purposes, The Alberta Youth Experience Survey 2002 uses the Adlaf cut-off whereby a total score of 11 or higher indicates hazardous or harmful drinking.

AADAC

ALBERTA ALCOHOL AND
DRUG ABUSE COMMISSION

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